

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

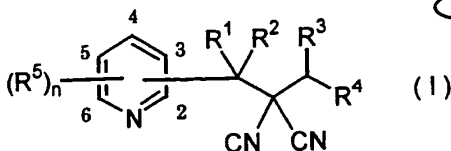
PCT

(10) International Publication Number  
**WO 2004/006677 A1**

- (51) International Patent Classification<sup>7</sup>: **A01N 43/40**, C07D 213/61, 213/57, 213/84
- (74) Agents: **KAWAMIYA, Osamu** et al.; Aoyama & Partners, IMP Building, 3-7, Shiromi 1-chome, Chuo-ku, Osaka-shi, Osaka 540-0001 (JP).
- (21) International Application Number: **PCT/JP2003/008579**
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: **7 July 2003 (07.07.2003)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data: **2002-208059** **17 July 2002 (17.07.2002)** **JP**
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except US): **SUM-ITOMO CHEMICAL COMPANY, LIMITED** [JP/JP]; 5-33, Kitahama 4-chome, Chuo-ku, Osaka-shi, Osaka 541-8550 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **OTAKA, Ken** [JP/JP]; 2-11-8-207, Sonehigashinocho, Toyonaka-shi, Osaka 561-0802 (JP). **OOHIRA, Daisuke** [JP/JP]; 2-10-3-316, Sonehigashinocho, Toyonaka-shi, Osaka 561-0802 (JP). **TAKAOKA, Daisuke** [JP/JP]; 8-7-20-322, Hon-machi, Toyonaka-shi, Osaka 560-0021 (JP).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/006677 A1

(54) Title: **MALONONITRILE COMPOUNDS AND THEIR USE AS PESTICIDES**



(57) Abstract: The present invention relates to a novel malononitrile compound represented by the formula (I): wherein, R<sup>1</sup> represents a C1 to C5 (halo)alkyl and the like, R<sup>2</sup> represents a C1 to C5 (halo)alkyl, R<sup>3</sup> and R<sup>4</sup> are the same or different and are a C1 to C6 (halo)alkyl and the like, R<sup>5</sup> represents a halogen atom and the like, n is an integer of 0 to 4 and when n is 2 or more, R<sup>5</sup> may be the same or different. The malononitrile compound has an

efficient pesticidal activity and can control effectively pests such as insect pests, acarine pests, nematode pests and the like.